1 Morphology of marine squat lobsters

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ABSTRACT

The external and internal morphology of the marine squat lobsters is reviewed. External morphology of squat lobsters has been extensively studied, primarily in the context of taxonomic research. The external morphology of the body and appendages is illustrated and described for each marine squat lobster family. The internal morphology of squat lobsters has not been recently studied in detail; studies to date primarily cover *Galathea* and some aspects of *Munida*. Thus, coverage of internal morphology is focused on *Galathea* and includes muscular, digestive, respiratory, circulatory, reproductive, excretory, nervous and endocrine systems. Although the internal anatomy is known in detail only for *Galathea*, the conservative body plan of marine squat lobsters suggests a general applicability to other squat lobster families. Owing to the paucity of recent studies of internal anatomy of squat lobsters, many of the illustrations used herein are cited from classical works, which, along with their descriptive remarks, will hopefully stimulate extensive future studies. Functional morphology of pereopod 5 and gonopods 1–2 is still poorly known, as is the internal morphology of sense organs and endocrine system.

KEYWORDS

Morphology, anatomy, muscular system, digestive system, respiratory system, circulatory system, reproductive system, excretory system, nervous system, endocrine system.

INTRODUCTION

In his treatise on the Crustacea in 'Die Klassen und Ordnungen der Arthropoden', Ortmann (1898–1901) incorporated accounts of the external and internal morphology of *Galathea strigosa*. In a single work, A. Milne-Edwards and Bouvier (1894) were the first to discuss in detail the comparative external morphology of squat lobsters. A comprehensive account including both the external morphology and internal anatomy was elaborated by Pike (1947) based on *Galathea squamifera*, a common species in European waters. Information regarding the ultrastructural morphology has increased for other decapods in the past half-century (e.g. Harrison and Humes 1992). Unfortunately, squat lobsters have received such little attention that a large part of Pike's account remains relevant. This chapter provides an outline of the external and internal morphology of squat lobsters. It